

# IEDS: The Obstacle in the Path to Assured Mobility

By Brigadier General Michael J. Silva

**E**ngineers have traditionally been the vanguard in breaching obstacles and clearing the path for armies to advance. The term *sapper* evolved from the use of engineers to dig what the French termed a *sappe* (trench), using a technique developed for digging trenches that allowed the opposing force's artillery to move forward in the attack to undermine a fortification. Sappers became known for their ability to bypass fortifications or to demolish them, thus the engineer ability to clear a path or breach an obstacle.

Today, engineer route clearance teams (RCTs) are doing the hero work in assuring mobility for combat logistics patrols (CLPs) and the movement of other coalition forces on the roadways. The obstacle encountered today is typically an improvised explosive device (IED). Engineers man the Buffalos,

Huskys, RG-31s, and other vehicles as they set out to find the IEDs before they detonate on coalition force vehicles. This protection mission has further proved the value of engineers in the fight. Once engineers locate an IED, they turn the mission over to explosive ordnance disposal (EOD) teams, who have extensive training in ordnance and explosives, having completed an eight-month certification course for their military occupational specialty (MOS) qualification. As long as EOD personnel are embedded within the route clearance mission, they are clearly the best trained Soldiers, Sailors, Airmen, or Marines to detonate IEDs.

## Engineer Explosives Training

**E**ngineers do not have a certifying explosive ordnance course. Does that mean that they are not

trained on explosives? Certainly not. When one reviews the program of training on explosives that combat engineers have, one might ask, "Why can't engineers detonate IEDs?"

Engineers begin their combat engineering training at the MOS 21B10 level, with basic tasks such as how to neutralize booby traps, construct firing systems, prime explosives, construct demolition initiating systems, and identify characteristics of demolitions and explosives. Over the years, the MOS 21B20 and 21B30 levels of explosives training build on the mastery of skills with successively more complex training; calculations; and knowledge of explosives, ordnance, blast effects, and different target disposal techniques.

Like the enlisted and noncommissioned officer (NCO) ranks, engineer officers learn about explosives and demolitions with a successive training regimen taking place over several years, beginning with their Engineer Basic Officer Leader Course and followed by platoon leader time as a combat engineer. Perhaps the most extensive and intensive demolitions and explosives training occurs for those attending both the Explosive Ordnance Clearance Agent (EOCA) Course and the Sapper Leader Course, which has live demolitions exercises as a part of the curriculum.

**The Buffalo's robotic arm is used to investigate and clear IEDs.**



Photo by Staff Sergeant Chris A. Durney

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## Finding an IED

**E**ven though combat engineers train over the years on explosives and demolitions, are they trained enough? What happens when they find an IED?

There are many tactics, techniques, and procedures for RCTs and many different techniques and vehicle configurations for the route clearance patrol. The purpose of this article is not to discuss those differences, but to generically describe the actions typically performed once an IED is found and needs to be cleared.

When the team members in the lead vehicle of the route clearance patrol spot a possible IED on an improved road, the patrol comes to a halt. While there are various initiators that require different responses by the RCT, the first action is to scan for secondary devices and assess the environment. The RCT looks for other possible IEDs nearby, particularly checking for wires or trigger devices. The next step is to interrogate the possible IED, typically by using the mechanical arm on the Buffalo. Once an IED is confirmed, a description of the IED—which may be a full description, to include the type of round, number of rounds, and initiation system that is configured—is radioed to the EOD vehicle, which could be anywhere in the patrol. Again, all personnel scan around their vehicles for secondary devices or booby traps. The EOD team then deploys a TALON® robot from their location and navigates it toward the IED. A camera mounted on the robot can be used to allow them to confirm the engineer assessment, but the robot generally moves forward and places an explosive charge on the IED and, once the patrol is at a safe distance, blows the IED in place.

On those specific occasions where remnants are collected after the controlled detonation, engineers scan around their vehicles before any personnel, including the EOD team, are allowed to dismount. On the vast majority of sites, the EOD team uses the robot to collect remnants, if they collect



**A Soldier prepares a TALON robot for use during a route clearance patrol.**

any at all. Dismounting the armored vehicles is a last option.

This coordinated effort between engineers and EOD personnel works great in the combined effort to clear the IED obstacle from the roadway and render safe the passageway for coalition forces and CLPs. However, if EOD personnel are not embedded, the system breaks down, creating inefficiencies and increased risk. Especially in urban areas, the risk of direct attack via small arms fire or rocket-propelled grenades increases when too much time is spent in one location.

## Gathering IED Evidence

**E**ngineers have the training, knowledge, and ability to detonate IEDs, and they can identify munitions and refer to the same or similar manuals as those used by EOD personnel (such as Navy or Air Force manuals). Engineers even have some of the TALON robots that are used to place the explosive charge on the IEDs. But an objection sometimes raised regarding engineers detonating IEDs is that they do not have the knowledge, experience, or training to gather the sensitive forensic evidence necessary to attack the IED network and get to the bomb maker.

First, not all IEDs are worthy of evidence collection, and the most basic IEDs are typically blown by EOD personnel without any attempt to collect evidence. In fact, there may be a 90/10 rule here, where less than 10 percent of IEDs are exploited for evidence.

Second, this argument is not fully sound when taking into account civilian skill sets of Reserve Component Soldiers. Many of them are civilian law enforcement personnel who bring invaluable experience to the route clearance mission due to their training in evidence collection and processing. Such skill sets should be used as an enhancement to mission accomplishment. These men and women work hard every day to take “bad guys” off the streets and know that the slightest mistake in evidence collection and handling may allow a criminal to go free. By tapping into these skills, the Reserve Component RCTs may be best outfitted for forensic evidence collection in the absence of trained EOD personnel.

## Conclusion

**E**ngineers spot, interrogate, and confirm IEDs and scan the area for secondary devices or other dangers to the situation. They have the proper manuals to assist in munitions

identification and often describe in great detail to EOD personnel what they see at the front of the route clearance patrol. So why can't engineers detonate IEDs? They can. While EOD-trained personnel are perhaps the best-qualified individuals for this task, they are not always available. Long wait times, increased risk, and mission requirements make it essential that engineers be allowed to detonate IEDs and complete their mission of breaching the obstacle and clearing the road for CLPs, other coalition forces, and local nationals.

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*Note: As of mid-March 2007, the theater command is reviewing the current policy to allow selected combat engineers to destroy common IEDs as part of a doctrinal engineer mission. One of those missions is being undertaken now by the RCTs. Task Force Troy and the Explosive Hazards Coordination Cell have been asked to draft a proposal for consideration that would authorize engineers trained in the EOCA Course and the Counter Explosive Hazards Center's Route Reconnaissance and Clearance Course-Sapper (R2C2-S) to destroy IEDs. If approved, it is likely that a new fragmentary order (FRAGO) will be published changing the current theater policy, defining the operational parameters, and authorizing these selected engineers to undertake this mission.*



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